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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,801	09/29/2000	Jeffrey L. Rabe	042390.P9428	8877

7590 03/13/2003

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EXAMINER

PHAN, RAYMOND NGAN

ART UNIT

PAPER NUMBER

2181

DATE MAILED: 03/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/675,801

Applicant(s)

RABE ET AL.

Examiner

Raymond Phan

Art Unit

2181

-- The MAILING DATE f this communication appears n the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____ .
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____ .
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ .
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____ .
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____ .

Part III DETAILED ACTION

Notice to Applicant(s)

1. This application has been examined. Claims 1-30 are pending.
2. The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 2181.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (d) BRIEF SUMMARY OF THE INVENTION.
- (e) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (f) DETAILED DESCRIPTION OF THE INVENTION.

- (g) CLAIM OR CLAIMS (commencing on a separate sheet).
- (h) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

The disclosure is objected to because of the following informalities:

- (d) Brief Summary of the invention is missing

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. Claims 10-30 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 10, 19, 24, 28, metes and bounds can not be determined and cause the claim to be vague and indefinite.

5. The remaining claims, not specifically mentioned, are rejected for incorporating the defects from the parent claim by dependency.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being

examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1-9 are rejected under 35 U.S.C. § 102(e) as being anticipated by Pawlowski (US No. 6,401,153).

In regard to claims 1, 7, Pawlowski discloses method comprising the step of receiving an interrupt (see col. (see col. 3, lines 27-35); converting the interrupt into an upstream memory write interrupt (see col. 3, line 60 through col. 4, line 18), and converting the upstream memory write interrupt into a front side bus (FSB) interrupt transaction (see col. 4, lines 30-64).

In regard to claims 2, 5, 8, Pawlowski discloses wherein the interrupt is generated by a PCI device (see col. 3, lines 41-51).

In regard to claims 3, 6, 9, Pawlowski discloses wherein the FSB interrupt is received by the processor (see col. 4, lines 37-44).

In regard to claims 4, Pawlowski discloses the method comprising the step of receiving a message signaled interrupt (see col. 4, lines 37-44); forwarding the message interrupt (see col. 4, lines 37-44); converting the message interrupt into an FSB interrupt transaction (see col. 4, lines 45-64).

8. Claims 10-14 are rejected under 35 U.S.C. § 102(e) as being anticipated by Bennett (US No. 6,466,998).

In regard to claim 10, Bennett discloses the apparatus comprising a chipset, configured to receive an interrupt and for converting the interrupt into the FSB interrupt transaction (see col. 6, lines 4-43).

In regard to claim 11, Bennett discloses the chipset comprising at least one I/O controller hub (ICH), P64H, and AGP device (see figure 1).

In regard to claim 12, Bennett discloses the I/O component of an APIC configured to convert the interrupt into the upstream interrupt (see col. 4, lines 31-46).

In regard to claim 13, Bennett discloses the chipset comprising a HUB interface coupled to the first end of IOxAPIC and coupled to the second end to MCH, wherein the memory control hub configured to convert the upstream interrupt into the FSB interrupt transaction (see figure 1, col. 4, lines 4-43).

In regard to claim 14, Bennett discloses the interrupt is generated by the PCI device (see col. 4, lines 31-44) and wherein the chipset is coupled to the processor (see figure 1).

9. Claims 19-30 are rejected under 35 U.S.C. § 102(e) as being anticipated by Pawlowski et al. (US No. 6,219,741).

In regard to claim 19, Pawlowski et al. disclose a chipset configured to redirect at least one interrupt based on the task priority information (see col. .

In regard to claim 20, Pawlowski et al. disclose wherein the task priority information provided by the processor in to the chipset having the task priority register (i.e. RTPR) and FSB transaction (see col. 9, lines 25-51).

In regard to claims 21, 25, Pawlowski et al. disclose wherein the interrupt is an upstream memory write interrupt (see col. 4, lines 1-10).

In regard to claims 22, 26, Pawlowski et al. disclose wherein the interrupt is an IPI interrupt (see col. 7, lines 39-45).

In regard to claims 23, 27, Pawlowski et al. disclose wherein the interrupt is marked as lowest priority re-directable and redirected to the lowest priority register (see col. 8, lines 15-37).

In regard to claim 24, Pawlowski et al. disclose redirecting at least one interrupt based on the task priority information (see col. 8, lines 15-21).

In regard to claim 28, Pawlowski et al. disclose providing preferred ordering of the at least one updated TPR and at least one interrupt to be redirected (see col. 8, lines 22-37).

In regard to claim 29, Pawlowski et al. disclose further comprising ensuring valid information is used for an interrupt redirection when an updated TPR transaction and an interrupt occurs about the same time (see col. 5, line 49 through col. 6, line 4).

In regard to claim 30, Pawlowski et al. disclose further comprising providing support for the updated TPR transactions to update at least one updated TPR register (see col. 9, lines 25-51).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 15-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bennett in view of Pawlowski.

In regard to claim 15, Bennett teaches the claimed subject matter as discussed above except the teaching of message interrupt. However Pawlowski discloses receiving a message signaled interrupt (see col. 4, lines 37-44). Therefore, it would have been obvious to a person of an ordinary skill in the art at

the time the invention was made to have combined the teachings of Pawlowski within the system of Bennett because it would increase numbers of peripheral added to the system.

In regard to claim 16, Bennett discloses the chipset comprising a HUB interface coupled to the first end of IOxAPIC and coupled to the second end to MCH, wherein the memory control hub configured to convert the upstream interrupt into the FSB interrupt transaction (see figure 1, col. 4, lines 4-43).

In regard to claim 17, Bennett discloses wherein the routing mechanism configured to flush the upstream interrupt before propagating an interrupt upstream (see col. 6, lines 16-43).

In regard to claim 18, Pawlowski discloses wherein the interrupt controller receive the EOI from the processor and broadcast the EOI to at least one device (see col. 6, lines 40-55).

Conclusion

12. All claims are rejected.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Raymond Phan, whose telephone number is (703) 306-2756. The examiner can normally be reached on Monday-Friday from 6:30AM- 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Primary, Paul Myers can be reached on (703) 305-9656 or via e-mail addressed to paul.myers@uspto.gov. The fax phone number for this Group is (703) 746-7239.

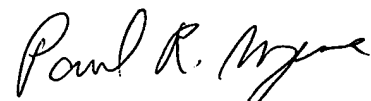
Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [raymond.phan@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Raymond Phan

3/10/03



**PAUL R. MYERS
PRIMARY EXAMINER**